

1. Solve the following absolute value equations.

a. $\left| \frac{5x + 2}{6} \right| = 7$

c. $|x + 3| = |x + 6| + 2$

b. $|5x - 4| + 10 = 5$

d. $|-3x + 1| = |4x - 6|$

2. Solve the following equations using whatever method necessary from this term.

a. $-2(5 + 2x) + 7 = 12 - (6 - 8x)$

b. $4x^2 + 37x = -40$

c. $\frac{2}{t+1} = \frac{3}{t-1} - \frac{2}{t^2-1}$

d. $3x^2 - 12x - 6 = 0$ by completing the square.

3. Solve the following compound inequalities.

a. $-10 \leq 12 - 2x < 30$

c. $5x + 6 < 26$ or $-2x - 8 > 6$

b. $-12x + 7 \leq 19$ and $-4x - 6 > 14$

d. $4x - 7 \leq 12$ or $-3x + 8 < 17$